



at the heart of critical care

ANIMAL EMERGENCY CENTER

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MAMMARY CANCER IN DOGS

Mammary (breast) tumors are among the most common tumors in the female dog. The development of mammary tumors in dogs is hormone dependent in most cases. The risk for malignant tumors in dogs spayed before their first heat cycle is 0.05%. This risk increases to 8% if spayed after the first heat cycle and to 26% when spayed after the second heat cycle. It is well established in humans that pregnancy has a protective effect (i.e. helps to prevent the development of mammary cancer), but this does not seem to be true in dogs. Approximately 50% of mammary tumors in the dog are malignant, meaning they have the potential to spread to other parts of the body. However, only about half of those tumors that are called malignant will ever actually spread. The most common sites of spread are the regional lymph nodes, and lungs. Around 50% of canine mammary tumors are benign, meaning they will not spread except by local growth. Surgical excision is the most effective therapy for any mammary tumor. If the tumor is benign, complete removal may be curative. If the tumor is malignant, post-surgical treatment with chemotherapy may be recommended. The recommendation for chemotherapy is based on how the tumor looks under the microscope.

Prior to performing surgery, blood work and x-rays of the chest and/or abdomen may be performed to ensure that there is no evidence of spread to other areas of the body and to evaluate the overall health of your pet. If spread is detected, it significantly changes the type of treatment that we are likely to offer and the prognosis for your dog.

Biopsy of mammary tumors prior to removing them is often not performed for the following reasons:

1. Initially benign tumors may transform at a later date to malignant forms.
2. Multiple tumors must be individually biopsied, as each one may be a different subtype of mammary tumor.
3. Within the same mass, a mixture of benign and malignant tissue may be present.

Instead, we recommend a single surgical procedure in which all of the affected tissue is removed. This may be a lumpectomy, a mastectomy, or a radical mastectomy, depending on the extent of disease that your dog has. We usually recommend spaying your dog at the same time as the mass removal as this may help to prevent the development of new mammary tumors.

After surgery, the masses will be submitted to the laboratory for analysis under the microscope. This process usually takes about 3-5 days. If the results come back as benign, no further treatment is recommended. If the results come back as malignant, further therapy may be indicated depending on the degree of vascular or lymphatic invasion and other criteria that can indicate that this tumor is likely to spread to other locations.

If it appears the tumor is likely to spread, we usually recommend follow up chemotherapy to attempt to delay or prevent the onset of spread. We usually recommend treatment with doxorubicin every 3 weeks for 5 treatments. This agent has been shown to have anti-tumor activity in a laboratory setting. Most dogs tolerate chemotherapy very well with few side effects. Less than 5% of dogs treated will have a side effect severe enough to require hospitalisation.

Hormonal therapy with anti-estrogens like tamoxifen have not shown any survival advantage in dogs, were associated with many unacceptable side effects, and are not currently recommended.

Following the completion of treatment, we recommend that regular rechecks be preformed so that any evidence of spread or reoccurrence can be detected early. Typically, rechecks are scheduled every 3 months for 1 ½ years, then twice yearly thereafter.